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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/466,665	12/20/1999	JAMES MOSER	9-13528-82US	1452
20988	7590	04/20/2004	EXAMINER	
OGILVY RENAULT 1981 MCGILL COLLEGE AVENUE SUITE 1600 MONTREAL, QC H3A2Y3 CANADA			ODOM, CURTIS B	
			ART UNIT	PAPER NUMBER
			2634	8
DATE MAILED: 04/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/466,665	Applicant(s) MOSER ET AL.	
	Examiner Curtis B. Odom	Art Unit 2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23, 35, 36 and 38-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1- 32, 35, 36, and 38-66 is/are allowed.
- 6) ☒ Claim(s) 67 and 68 is/are rejected.
- 7) ☒ Claim(s) 69-78 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huscroft et al. (previously cited in Office Action 11/7/03) in view of Knapp et al. (U. S. Patent No. 6, 005, 904).

Regarding claim 67, Huscroft et al. discloses a method recovering a clock signal from a received data signal, comprising the steps of:

sampling (Fig. 1) the received data signal using a phase detector (Fig. 1, block 5, column 4, line 60-column 5, line 17) that generates a phase error signal indicative of a detected phase difference between the data signal and an oscillator output signal, performing frequency lock on data signal frequencies that fall outside of a pull-in range of the phase detector using a digital frequency detector (Fig. 1, 15, column 5, lines 31-59) ;

selecting (Fig. 1, block 19, column 5, lines 52-59 and column 7, lines 18-column 8, line 8) an output of the phase detector when the detected frequency difference is small and otherwise selecting the output of the digital frequency detector to generate the recovered clock signal; and

using the selected one of the outputs of the phase detector and the digital frequency detector to control an oscillator to generate the recovered clock signal (column 5, 10-59).

Huscroft et al. does not disclose the frequency detector generates its output by sampling the received data signal.

Huscroft et al. generates an output from the frequency detector by comparing a reference clock signal to an output of an oscillator. The claimed invention generates an output from the frequency detector by sampling and comparing the frequency of the received data signal to the output of an oscillator. Knapp et al. discloses a frequency detector (Fig. 2, block 34, column 4, lines 33-43) which generates an output from the frequency detector by comparing the frequency of the received data signal to the output of an oscillator. Knapp et al. also discloses the frequency detector can be comprised of latches and logic gates (column 4, lines 33-43). The composition of latches and logic gates would allow the detector to sample the received data signal. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the frequency detector of Huscroft et al. with the teachings of Knapp et al. to allow the frequency detector to generate an output signal by directly processing the received data signal. Using the actual frequencies of the received data signal rather than a reference signal for comparison at the frequency detector would produce a more accurate output signal from the frequency detector.

Regarding claim 68, Huscroft et al. discloses a method as claimed in claim 67, wherein selecting an output of the phase detector and the digital frequency detector is performed by a control unit (Fig. 1, block 19, column 5, lines 52-59 and column 7, lines 18-column 8, line 8).

Art Unit: 2634

Allowable Subject Matter

3. Claims 1- 32, 35, 36, and 38-66 are allowable over prior art if above rejections are overcome because related references do not disclose a digital frequency detector which includes a first and second sampler that produce outputs to a third sampler with determines a frequency error signal from the outputs of the first and second sampler.

4. Claims 69-78 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Croughwell (U.S. Patent No. 6, 560, 305) discloses a digital frequency detector comprising of latches and logic gates used to generate a frequency error signal.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 703-305-4097. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2634

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Curtis Odom
April 6, 2004



STEPHEN CHIN
SUPERVISORY PATENT EXAMINEE
TECHNOLOGY CENTER 2600